

Remarks

Currently pending in the application are claims 30 and 45-48. Applicants have amended claims 30 and 46 to further distinguish the claimed invention. No new matter has been added.

35 U.S.C. § 103

The Examiner rejected claims 30 and 45-48 under 35 U.S.C. § 103(a) as being unpatentable over Marten et al. (US 2002/0040098) in view of Majumdar et al. (US 2003/0100656). Applicants traverse this rejection for the following reasons.

According to method claims 30 and 45-48 of the present application, a non-isocyanate based polyurethane product is produced by (i) mixing one or more cyclocarbonate resins with at least one nano-clay having a platelet thickness of less than 4-8 Å and an aspect ratio higher than 100, and with at least one hardener to form a composition; and (ii) curing the composition.

Marten et al. teach a method of (i) mixing a cyclocarbonate resin with a polyamine and (ii) curing the mixture to form a product. While Marten et al. teach additives (such as those described in column 15, lines 45-53) may optionally be added, Marten et al. do not teach or suggest a method where the additive is at least one natural or synthetic, modified or unmodified nano-clay having a platelet thickness of less than 4-8 Å and an aspect ratio higher than 100.

The Examiner asserts one would have substituted the clay taught in Majumdar et al. with the clay taught in Marten et al. thus rendering Applicants claimed invention obvious. However, Majumdar et al.'s clay is a nanocomposite (i.e. clay intercalated with a polyether block polyamide copolymer). In comparison, Applicants claimed method

does not use a nanocomposite but instead uses natural or synthetic, modified or unmodified nano-clay. Thus, the nano-clay used in Applicants claimed method is clearly distinguished from that disclosed in Majumdar et al. Therefore, Marten et al. combined with Majumdar et al. does not lead one to a method of forming a non-isocyanate based polyurethane by mixing one or more cyclocarbonate resins with at least one natural or synthetic, modified or unmodified nano-clay having a platelet thickness between 4-8 Å and an aspect ratio higher than 100 with at least one hardener to form a composition and then curing the composition to form the non-isocyanate based polyurethane as presently claimed. Accordingly, Applicants submit that claims 30 and 45-48 are not obvious in view of the publications cited above and respectfully request the rejections under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

Applicants respectfully submit that the application is now in condition for allowance, and respectfully request an issuance of a Notice of Allowance directed towards the pending claims.

Should any fee be due in connection with the filing of this document, the Commissioner for Patents is hereby authorized to deduct said fee from Huntsman Corporation Deposit Account No. 08-3442.

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